INTISARI

Trans-sinamaldehid merupakan kandungan utama minyak kayu manis dan berpotensi sebagai agen antibakteri. Minyak kayu manis diformulasikan dalam sediaan *lotion* untuk meningkatkan penerimaan dan kenyamanan pengguna. Penelitian ini bertujuan untuk mengetahui aktivitas antibakteri minyak kayu manis dan *lotion* minyak kayu manis terhadap *Staphylococcus epidermidis* yang merupakan salah satu bakteri penyebab bau pada kaki.

Penelitian ini merupakan penelitian eksperimental murni dengan rancangan penelitian acak lengkap pola searah. Tahapan penelitian diawali dengan uji aktivitas antibakteri minyak kayu manis terhadap *Staphylococcus epidermidis* dengan metode difusi sumuran (variasi konsentrasi 100; 75; 50; 25; 20; 15; 10; 5; dan 2,5% (v/v)), kemudian dilanjutkan dengan formulasi minyak kayu manis dalam sediaan *lotion* dengan variasi konsentrasi 12; 18; dan 24% (b/b). Selanjutnya, dilakukan uji sifat fisik *lotion* minyak kayu manis dan pengujian aktivitas antibakteri *lotion* minyak kayu manis terhadap *Staphylococcus epidermidis*. Aktivitas antibakteri diukur berdasarkan diameter zona hambat yang dihasilkan dan dianalisis secara statistik dengan uji *Kruskal-wallis*. Data dianalisis menggunakan *software* R 2.14.1.

Hasil penelitian menunjukkan minyak kayu manis memiliki aktivitas antibakteri yang tidak berbeda pada 10; 15; dan 20% (v/v). Hasil analisis statistik menunjukkan *lotion* minyak kayu manis memiliki aktivitas antibakteri terhadap *Staphylococcus epidermidis*. Minyak kayu manis memberikan aktivitas antibakteri yang berbeda setelah diformulasikan dalam *lotion* minyak kayu manis terhadap *Staphylococcus epidermidis*. Berdasarkan hasil uji sifat fisik, *lotion* minyak kayu manis yang memenuhi kriteria yang diharapkan adalah *lotion* minyak kayu manis dengan konsentrasi 12% (b/b).

Kata kunci: aktivitas antibakteri, minyak kayu manis, *lotion*, *Staphylococcus epidermidis*

ABSTRACT

Trans-cinnamaldehyde is the major chemical compound of cinnamon oil which is potential as an antibacterial agent. Cinnamon oil can be formulated into a lotion to enhance acceptance and the comfort of use. This study aimed to determine the antibacterial activity of cinnamon oil and cinnamon oil lotion against *Staphylococcus epidermidis*, the bacteria which becomes one of the causes of unacceptable foot odor.

This study was a pure experimental study using randomized study design complete unidirectional pattern. Stages of this study were starting with the evaluation of antibacterial activity of cinnamon oil against *Staphylococcus epidermidis* which was done by using diffusion method (series of concentration were 100; 75; 50; 25; 20; 15; 10; 5; and 2.5% (v/v)) to determine the concentrations which used in the formulation. Cinnamon oil was then formulated into lotions with variations concentration to 12; 18; and 24% (w/w) respectively. Furthermore, the quality of lotion based on its physical properties such as viscosity and spread-ability, and the antibacterial activity of lotion are determined. The data of measurement result of inhibition were zones statistically analyzed with the *Kruskal-Wallis* test. Data were analyzed by using the R 2.14.1software.

The result showed that cinnamon oil had no significant activity against *Staphylococcus epidermidis* at various concentration of 10; 15; and 20% (v/v). Statistical analysis showed cinnamon oil lotion had antibacterial activity against *Staphylococcus epidermidis* at various concentration of 12; 18; and 24% (w/w). Cinnamon oil had different antibacterial activity against *Staphylococcus epidermidis* after formulated into cinnamon oil lotion. Cinnamon oil lotion had good physical properties at a concentration of 12% (w/w).

Keywords: antibacterial activity, cinnamon oil, lotion, *Staphylococcus epidermidis*